

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for associating a specific subscriber with one of a plurality of port bundles, comprising:

reserving one of ~~said~~ the plurality of port bundles for ~~said~~ the specific subscriber if ~~said~~ the specific subscriber has not been assigned one of ~~said~~ the plurality of port bundles, the plurality of port bundles associated with an aggregation device;

changing an original source port number in a data packet to a port bundle number corresponding to ~~said one of said~~ the reserved one of the plurality of port bundles;

modifying a subscriber address in ~~said~~ the data packet to an assigned aggregation address;

issuing a request to a remote management device for authentication of ~~said~~ the specific subscriber;

receiving a response from the remote management device including a state of authentication of ~~said~~ the specific subscriber;

creating a mapping between the specific subscriber and the reserved one of the plurality of port bundles;

~~mapping said subscriber to said reserved port bundle in a port bundle object~~ saving the mapping in a port bundle logical object; and

assigning ~~said~~ the reserved one of the plurality of port bundles to ~~said~~ the specific subscriber if ~~said~~ the specific subscriber is authenticated.

2. (Currently Amended) The method of claim 1, wherein each of ~~said~~ the plurality of port bundles includes a port bundle length, a port number, and an assigned aggregation address.

3. (Currently Amended) The method of claim 2, wherein ~~said~~ the port bundle number includes a range of sequential port numbers starting with a base port number.

4. (Currently Amended) The method of claim 3, wherein ~~said~~ the range of sequential port numbers is approximated by

$$\text{range of sequential port numbers} = 2^{\text{port bundle length}}$$

5. (Currently Amended) The method of claim 2, wherein ~~said~~ the port bundle length is an integer in a range of 1 to 16.

6. (Currently Amended) The method of claim 1, further comprising maintaining a status for ~~said~~ the specific subscriber.

7. (Currently Amended) The method of claim 6, further comprising signaling ~~said~~ the status to ~~said~~ the remote management device.

8. (Currently Amended) The method of claim 6, wherein ~~said~~ the status indicates whether ~~said~~ the specific subscriber is logged-on or logged-off.

9. (Currently Amended) The method of claim 1, further comprising:

changing ~~said the~~ assigned aggregation address to ~~said the~~ subscriber address;
resetting ~~said the~~ port number to ~~said the~~ original source port number; and
transmitting ~~said the~~ data packet to ~~said the specific~~ subscriber.

10. (Currently Amended) An apparatus for associating a specific subscriber with one of a plurality of port bundles, comprising:

at least one source port to receive at least one data packet, ~~said the~~ data packet having a subscriber address;

each of ~~said the one of the~~ plurality of port bundles coupled to ~~said the~~ source port;

a plurality of memories, each of ~~said the~~ plurality of memories coupled to one of ~~said the~~ plurality of port bundles;

a port bundle logical object ~~in coupled to~~ each of ~~said the~~ plurality of memories to associate ~~said the~~ subscriber with ~~said the~~ port bundle;

a processor coupled to ~~said the~~ plurality of port bundles; and

an output port coupled to ~~said the~~ processor.

11. (Currently Amended) The apparatus of claim 10, wherein each of ~~said the~~ plurality of port bundles includes a port bundle length, a port number, and an assigned aggregation address.

12. (Currently Amended) The apparatus of claim 11, wherein ~~said the~~ base port number includes a range of sequential port numbers starting with a base port number.

13. (Currently Amended) The apparatus of claim 12, wherein ~~said~~ the range of sequential numbers is approximated by

$$\text{range of sequential port numbers} = 2^{\text{port bundle length}}$$

14. (Currently Amended) The apparatus of claim 11, wherein ~~said~~ the port bundle length is an integer in a range of 1 to 16.

15. (Currently Amended) The apparatus of claim 12, wherein ~~said~~ the base port number signals the status of said subscriber.

16. (Currently Amended) An apparatus for associating a specific subscriber with one of a plurality of port bundles, comprising:

means for reserving one of ~~said~~ the plurality of port bundles for ~~said~~ the specific subscriber if ~~said~~ the specific subscriber has not been assigned one of ~~said~~ the plurality of port bundles, the plurality of port bundles associated with an aggregation device;

means for changing an original source port number in a data packet to a port bundle number corresponding to ~~said one of said~~ the reserved one of the plurality of port bundles;

means for modifying a subscriber address in ~~said~~ the data packet to an assigned aggregation address;

means for issuing a request to a remote management device for authentication of ~~said~~ the specific subscriber;

means for receiving a response from the remote management device including a state of authentication of ~~said~~ the specific subscriber;

means for creating a mapping between the specific subscriber and the reserved one of the plurality of port bundles;

~~mapping said subscriber to said reserved port bundle in a port bundle object~~ means for saving the mapping in a port bundle logical object; and

means for assigning ~~said~~ the reserved one of the plurality of port bundles to ~~said~~ the specific subscriber if ~~said~~ the specific subscriber is authenticated.

17. (Currently Amended) The apparatus of claim 16, wherein each of ~~said~~ the plurality of port bundles includes a port bundle length, a port number, and an assigned aggregation address.

18. (Currently Amended) The apparatus of claim 17, wherein ~~said~~ the port bundle number includes a range of sequential port numbers starting with a base port number.

19. (Currently Amended) The apparatus of claim 18, wherein ~~said~~ the range of sequential port numbers is approximated by

$$\text{range of sequential port numbers} = 2^{\text{port bundle length}}$$

20. (Currently Amended) The apparatus of claim 17, wherein ~~said~~ the port bundle length is an integer in a range of 1 to 16.

21. (Currently Amended) The apparatus of claim 15, further comprising means for maintaining a status for ~~said~~ the specific subscriber.

22. (Currently Amended) The apparatus of claim 21, further comprising means for signaling ~~said~~ the status to ~~said~~ the remote management device.

23. (Currently Amended) The apparatus of claim 21, wherein said status indicates whether ~~said~~ the specific subscriber is logged-on or logged-off.

24. (Currently Amended) The apparatus of claim 15, further comprising:
means for changing ~~said~~ the assigned aggregation address to ~~said~~ the subscriber address;
means for resetting ~~said~~ the port number to ~~said~~ the original source port number; and
means for transmitting ~~said~~ the data packet to ~~said~~ the specific subscriber.

25. (Currently Amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method for associating a specific subscriber with one of a plurality of port bundles, said method comprising:

reserving one of ~~said~~ the plurality of port bundles for ~~said~~ the specific subscriber if ~~said~~ the specific subscriber has not been assigned one of ~~said~~ the plurality of port bundles, the plurality of port bundles associated with an aggregation device;

changing an original source port number in a data packet to a port bundle number corresponding to ~~said one of~~ ~~said~~ the reserved one of the plurality of port bundles;

modifying a subscriber address in ~~said~~ the data packet to an assigned aggregation address;

issuing a request to a remote management device for authentication of ~~said~~ the specific subscriber;

receiving a response from the remote management device including a state of authentication of ~~said~~ the specific subscriber;

creating a mapping between the specific subscriber and the reserved one of the plurality of port bundles;

~~mapping said subscriber to said reserved port bundle in a port bundle object~~ saving the mapping in a port bundle logical object; and

assigning ~~said~~ the reserved one of the plurality of port bundles to ~~said~~ the specific subscriber if ~~said~~ the specific subscriber is authenticated.